

Reconfigurable Robust Routing for Mobile Outreach Network, Phase I

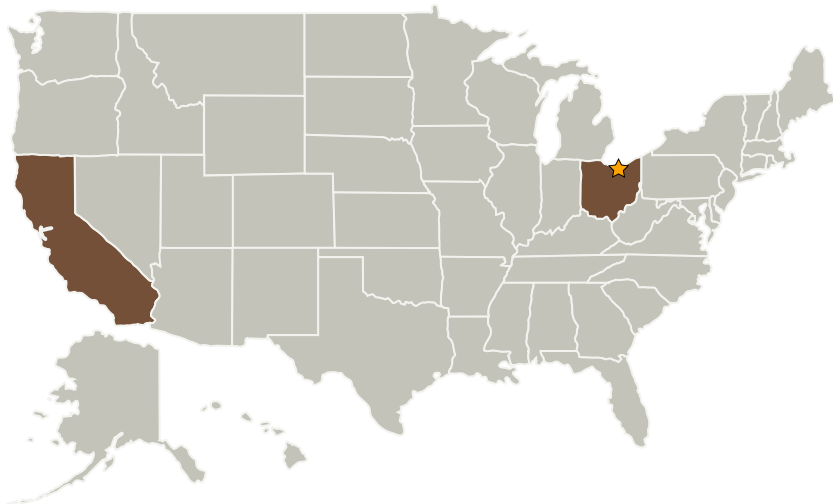


Completed Technology Project (2009 - 2009)

Project Introduction

The early lunar network communications involves the use of a variety of communication channels and networks such as IEEE 802.16, Ka-Band and S-Band satellite data-links. The sophisticated environment casts a major challenge to provide a reliable network communications supporting the performance of lunar missions. In addition, the delivery of a higher Quality of Service (QoS) is not only stifled by the network segmentation but also greatly influenced by the potential data-link disruption. AGNC proposes the Reconfigurable Robust Routing for Mobile Outreach Network (R3MOON) implemented on its existing Service Oriented P2P Middleware. By adopting effective cross-layered network management strategies and routing algorithms in the underlying middleware, R3MOON greatly mitigates many network concerns and transforms the lunar communications from the maintenance of lower level data-link to the performance of higher level applications. Phase I is devoted to the R3MOON design validation and early prototype. Phase II will result in development of a fully functional prototype.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission
Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation
Research/Small Business Tech
Transfer

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Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
American GNC Corporation	Supporting Organization	Industry Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB)	Simi Valley, California

Primary U.S. Work Locations

California	Ohio
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
 - └ TX05.3 Internetworking
 - └ TX05.3.3 Information Assurance